Tracks

Summer 2005
Issue #32

Free to Hunters

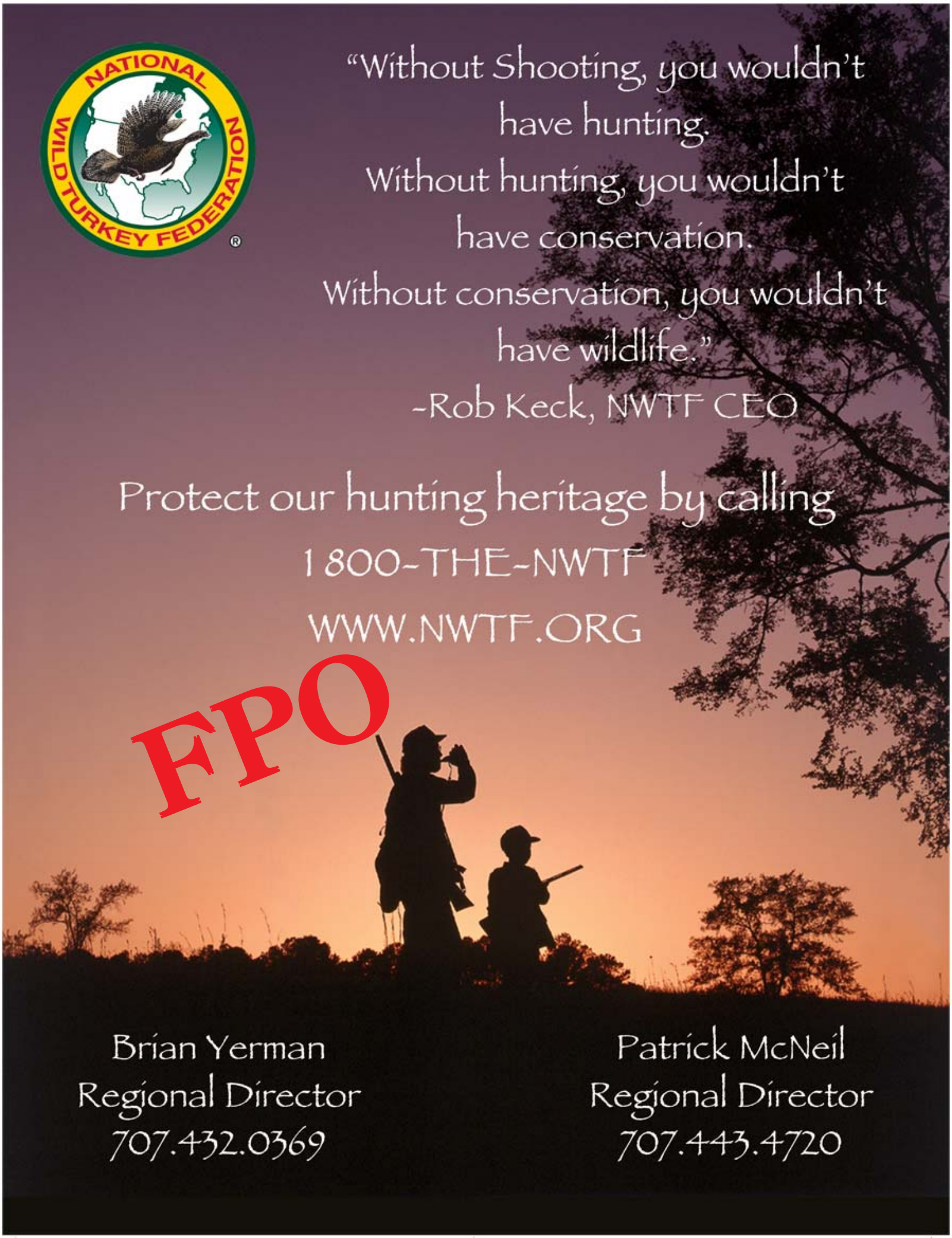
Inside:

Upland Game Hunt Season Summary

Great Bird Hunting (on Public Land!)

Special Hunt Schedule

...and more!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Mark S -Paso Robles

"Best pheasant I've seen throughout Southern California. They remind me of the pheasant I see in South Dakota."
Rich F -Monterey

"With their tailored hunting schedule and the wild bird like performance, I have not wanted to hunt any other club."
Robert H -San Diego

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Cover photo by David Lasher

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Great Bird Hunting (on Public Land)!

by Jesse Garcia

Hunters can expect excellent chukar and quail hunting in some parts of the state during 2005, thanks to abundant rainfall last winter and a series of well-timed spring storms.

These conditions have created exceptional nesting and brood rearing habitat for chukar and quail, particularly in the Gambel's quail range where rainfall was nearly three times the norm. Under these conditions, nesting Gambel's quail pairs sometimes will hatch two broods. In the Central Coast Hydrologic Region, which received 180 percent of average precipitation, improved nesting conditions in coastal habitats south of Santa Cruz should also promote double broods by California quail. In southern California, the chukar range in these areas (South Coast Ranges and Mojave Desert) also benefited from the exceptional rainfall. Because of these weather conditions, hunters can expect to encounter greater numbers of large coveys this fall.

In addition, some 3,000 gallinaceous guzzlers will provide water to the expanded quail populations during the summer and fall. This will help sustain them until the next cycle of rain. Guzzlers are man-made underground water storage devices designed to collect water during the rainy season for use by quail and other wildlife during the dry season. They are installed by the DFG and regularly inspected and maintained by members of the nonprofit group Quail Unlimited.

I contacted DFG wildlife biologists throughout the state to help me create a statewide hunt forecast, including the best public areas to hunt. (By Tracks' press date, young quail and chukar counts had not been completed in some areas.)

Northern California-North Coast Region

According to DFG wildlife biologist Frank Hall, northern California quail production is dependent on spring and summer rainfall. "We received very heavy snow in January of 2005, but minimal quail mortality," said Hall. "As we head into the summer, we're hoping for a repeat of the precipitation patterns we saw during the summers of 2003 and 2004. Those conditions were about as good as it gets for quail production."

In Lassen, Modoc and eastern Siskiyou and Shasta counties, hunters can expect to find California quail near riparian and mixed shrub areas. For mountain quail, look for brush patches in montane conifer stands west of, and near, the Sierra Crest. Chukars in eastern Lassen County are in rockier cheatgrass and sage areas, from about 4,500 feet elevation to near

the tops of non-tree covered peaks at about 8,000 feet.

For better chukar hunting prospects on U. S. Bureau of Land Management (BLM) lands in eastern Lassen County, hunt Skedaddle Mountains, Shaffer Mountain, Five Springs Mountain, Cherry Mountain, Shinn Peak, Black's Mount, Rush Creek Mountain, and Al Shinn Canyon. There are lesser numbers in the Fort Sage and Peterson mountains.

Since these areas are scattered over about 10 million acres on four national forests and five BLM field offices, contact the U. S. Forest Service and BLM directly for maps and additional information.

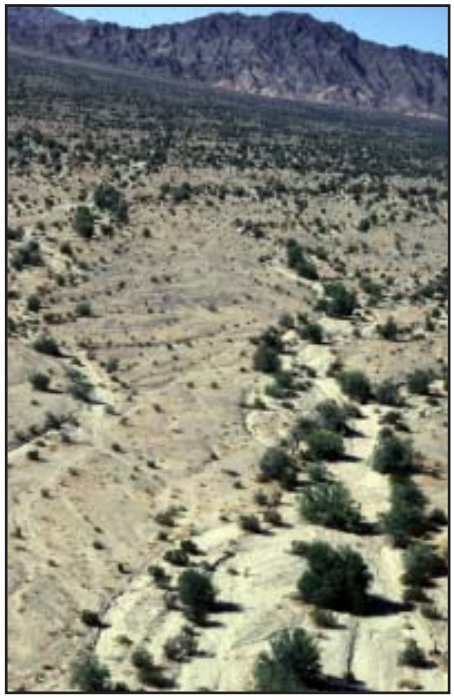
San Joaquin Valley-Southern Sierra Region

In the four-county boundary area of Inyo, Kern, San Bernardino, and Tulare counties, DFG wildlife biologist Rocky Thompson expects quail brood counts to be very high this year. He says, "Hunters should expect a great year for quail and chukar hunting in the Southern Sierra and Mojave Desert. The Rand (mostly chukar here) and El Paso Mountains and the canyons of the eastern slope of the Southern Sierra will be good for desert hunters and, for quail hunters in general, all of the Southern Sierra looks like a good bet."

Eastern Sierra-Inland Desert Region

For Mono County, wildlife biologist Timothy Taylor of the DFG's Eastern Sierra and Inland Deserts Region reports that the 2005/06 valley quail and chukar season is expected to be an improvement over last year due to the high number of adult birds making up this year's breeding population. "Good adult carryover and excellent habitat conditions this spring will allow chukar populations in Mono County to continue an upward trend," said Taylor. "The fall season is predicted to be generally good for chukar and valley quail because of increased bird numbers and the number of young birds available to hunters. Adult carryover in mountain quail is generally poor due to the dry conditions in 2003/04. However, the 2005/06 season is expected to be an improvement over last year due to excellent habitat conditions and the resultant number of young birds available to hunters."

For the majority of San Bernardino County, DFG wildlife biologist Andy Pauli is expecting exceptional upland game hunting opportunities to be provided in the Mojave Desert this year. According to Pauli, above average rainfall over the past three years—and especially this year—has provided lots of hold-over birds (both quail and chukar) to reproduce this year. He says, "I have already seen broods of 15-20 young this year. I expect that mid-summer brood counts will reflect excellent reproduction throughout the desert areas. I have found a good number of birds in places where I haven't seen them in over 20 years. As an added bonus, both cottontail and jackrabbit numbers are way up." All upland game species can be found in desert washes, upland habitats, and up to the base of the mountains.



The western Mojave Desert is best for chukar hunting, including: Red Mountain, Stoddard Ridge, Opal Mountain, Black Mountain, Ord Mountains and other traditional sites. Many of the eastern Mojave Desert areas can be excellent for Gambel's quail hunting, and include: Providence Mountain,

Previous page: Debbie Schwiebert is on her way to a limit of quail.

Top: Gambel's guail use open spaces of desert wash habitat to escape hunters, usually by running. Hunters should be prepared to also run.

Left: Dog tired after a successful day of chukar hunting in Lassen County.

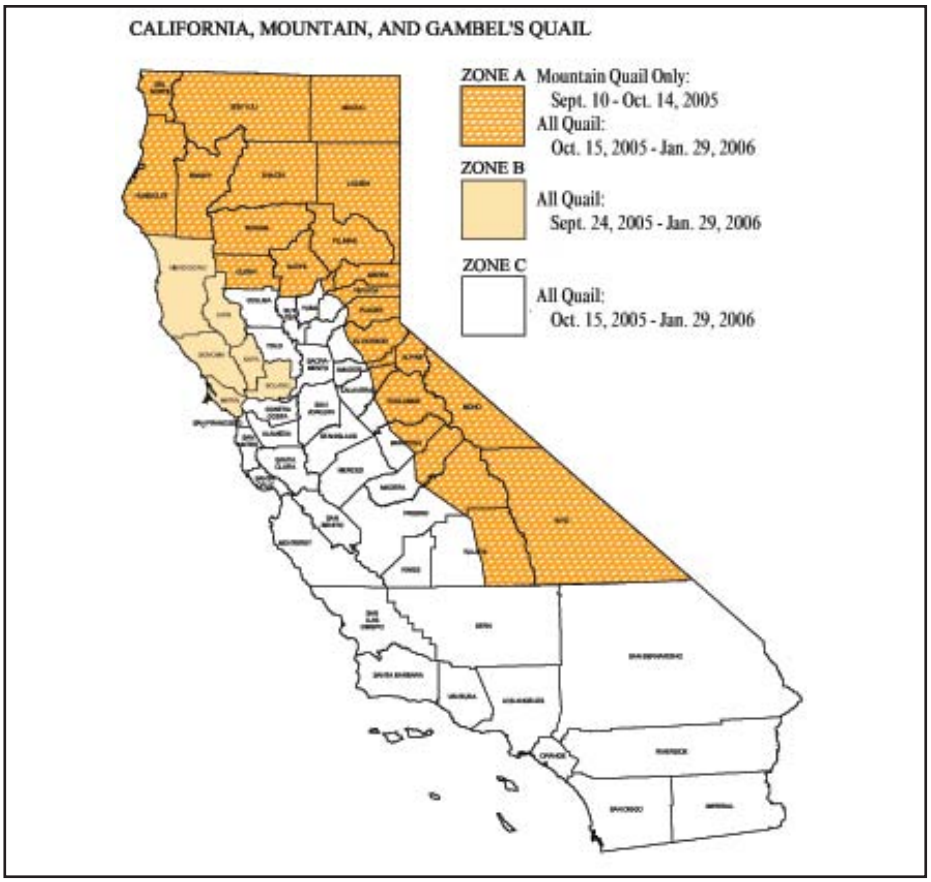
New York Mountain, Hackberry Mountain, Woods Mountain area, Piute Mountains, Clark Mountains (all located within Mojave National Preserve [MNP]), the Old Woman Mountains, Sacramento Mountains, and the Chemehuevi Mountains, on BLM lands. Maps of the area can be obtained at BLM offices located in Barstow and Needles and at MNP visitor centers at Barstow and Baker.

South Coast Region

For the South Coast region, DFG wildlife biologist Randy Botta conveys his assessment of the desert regions of western Riverside and eastern San Diego counties. "Green-up" actually began during the summer of 2004 with exceptional rainfall, that resulted in early flower bloom. That green-up lasted into December of 2004, at which time the winter rains began. Growth of herbaceous plants and forbs was exceptional throughout the desert, mountain, and inland areas of the south coast during the later part of last winter through spring. Available water (ponds, reservoirs, creeks, springs, seeps, guzzlers) is widespread in the mountains and inland valleys at a time when desert areas have begun to diminish a bit. Snowfall was light in the mountains of San Diego County and other mountain ranges in the South Coast Region. Late precipitation occurred but was generally light and scattered.

"Gambel's and California quail should show improvement. I have recently observed large broods of Gambel's quail on the ground but have yet to observe any young California quail," said Botta.

Hunting during last season was pretty mixed for California and mountain quail. In San Diego County, some hunters found good hunting and plenty of birds while others reported small numbers or no birds in areas that previously supported coveys. This year, hunters are likely to find birds more widespread and, in some areas, in greater numbers than last year.



For eastern Imperial and Riverside counties, DFG wildlife biologist Gerald Mulcahy of the Department's Eastern Sierra and Inland Deserts Region says, "The upcoming season looks like it may finally be significant. Reproduction took place last year but numbers were so low the year before that coveys that previously had 100 plus birds were down to 5-8 birds," said Mulcahy. "Last year we saw that these numbers had improved slightly, to 20-30 birds per covey. With the excellent rains of this last winter, and the fact that we are seeing broods already of 12 to 14 chicks, I believe that this year we may see a better hunting opportunity. The main desert washes will be the most productive areas to hunt."

Mulcahy is referring to major washes such as Arroyo Seco, Julian, Milpitas, and Vinagre washes. He reminds hunters they will need to obtain BLM maps that show wilderness boundaries. He cautions, "Almost all of the mountain ranges down here in Imperial and Riverside counties are wilderness areas. Hunters have to be responsible when accessing these areas, as vehicles are not allowed. Hunting is permissible if they walk in. Birds will most likely be widely scattered as feed is abundant everywhere."

The DFG has a free publication called *Guide to Hunting Quail in California*. It provides information necessary to find and identify quail, how and where to hunt quail (with and without a dog), and how to care for bagged quail. It also shows chukar hunting locations. It can be downloaded from the DFG Web site at http://www.dfg.ca.gov/coned/quailguide.pdf. Printed copies can be obtained by writing to: California Department of Fish and Game, Wildlife Programs Branch, Upland Game Program, 1812 Ninth Street, Sacramento, CA 95814.

Be sure to carry plenty of water while hunting as it still can be quite hot early in the season—particularly in the desert areas. The latest Game Take Hunter Survey data available is for the 2003 – 2004 license year. Reported hunter take for the four species are as follows: California quail – 540,417; Gambel's quail – 59,369; mountain quail – 148,222; Indian chukar – 46,496.

Jesse Garcia is a wildlife biologist with the DFG's Upland Game Program.

Pheasant Facts

...and Fancies

By Chet Hart

The ring-necked pheasant isn't native to California, or to other areas outside Asia and the Middle East. But it warrants the status of a naturalized citizen from having been proven a desirable addition to our bird species over a period of more than 100 years. Over that time many questions and what amounts to folklore or misunderstandings about this bird have developed. We'll try to set some of those straight, although I've learned over the years that it is dangerous to say "always" or "never" about pheasants.

Where From—Game Farm or Wild?

Pheasants were first introduced successfully in North America in 1881 with Chinese ringnecks trapped near Shanghai and released in the Willamette Valley of Oregon.

The introduction was so successful that California, among other states, obtained wild-trapped birds from Oregon, starting in 1889. Their release established our first pheasant populations in several locations in northern and central California. These local populations didn't expand much with the mostly dry-farmed agriculture of that era. However they later flourished in many areas of the state with the advent of irrigated field crops and the favorable farming practices used then. Spring and early summer moisture is essential for pheasant production in our mainly Mediterranean climate, which can come from irrigation if not supplied by unusual spring rainfall.

But it takes more than that. In the last 25 or 30 years, pheasants have essentially disappeared from most of these cropland habitats in California due to the onset of extremely clean and intensive farming practices. But that is another story.

Agricultural Bird Needing Cereal Grain Food?

Pheasant use of cropland habitat, especially in the Midwest, led to myths that they were an agricultural bird that required cereal grain food. Although these beliefs were disproved at least 50 years ago, they still persist. Ringnecks are adaptable opportunists, within limits, and will readily eat grain food when available. But they don't need grain food—we have had dense ringneck numbers living almost entirely on leaves and florets of ladino clover, with some weed and grass seeds. We now know that there are other locations in the US where pheasants are doing or have done well in the absence of grain.

How Long Do They Live?

Pheasants are inherently short-lived birds. During a long-term study in Sutter Basin (Sacramento Valley), we captured, aged, and banded more than 19,000 wild pheasants, which enabled determining their mortality rates. Annual rooster deaths averaged about 80 percent, and hens, 60 percent. This meant that from an annual crop of ringnecks, about 96 percent of the roosters and 84 percent of the hens would die by the end of their second year, but mostly in the first. A very few roosters made it to 4 years old, but none past 5; one hen lasted into her sixth year. But these older birds mainly are just novelties—they make up such a small proportion of the breeding population that they are insignificant in population dynamics.

What do they die from? Of course with roosters it's largely from hunting. High numbers of nesting hens can be killed in mowing alfalfa or other hay crops. In regions with severe winters, deep snow and ice can affect survival, especially making pheasants more subject to predation. But even in California's mild winters, ringnecks don't live significantly longer—they just aren't genetically programmed to be longer-lived.

This is why pheasant numbers can fluctuate so much so quickly, according to annual reproductive success. And when someone tells you that they have had the same rooster crowing in the same spot for a number of years, odds are that this has been several different roosters in sequence attracted to a good crowing territory location.

How Many Hatches?

To compensate for their high mortality rate, pheasants have a high reproductive potential. Initial nests typically averaging about a dozen eggs. But reports of "second and third hatches" are misinterpreting what the observer sees. Chicks may hatch and be seen from April into August in California. But these chicks typically come from the first nest the hen has successfully incubated. Hens are persistent re-nesters and usually will make up to three nesting attempts when their nests are depredated or otherwise destroyed. However, hens essentially never rear more than 1 brood per year.

What About Chicks?

Pheasant chicks are vulnerable in that they are precocial and insectivorous. This means they have to catch their own insect food, often undergoing hazards to do so. They are entirely dependent on insect and other invertebrate food for the first several weeks of life before phasing over mainly to seeds and other vegetable fare. This means that in pheasant management, to grow pheasants you first have to learn how, when and where to grow "bugs" to ensure good chick survival. We've learned some "tricks" for that, but again, that's another story.

Old or Young Rooster?

Hunters (or the cook) often want to know whether they've bagged old or young roosters—this can be a factor in how best to cook them. For wild pheasants there is no way of aging that is 100 percent accurate. Our southerly latitude and warmer springs lead to earlier nesting, and our milder falls to later hunting seasons. The result is that here, the young-of-the-year in the bag can be as much as about two months (perhaps 50 percent) older than in most other regions of the U.S. and they can mature appreciably in that extra two months. For the "amateurs" at this, spur characteristics are still the easiest measure of age and about as good as anything. Adult roosters typically have longer, more conical, and glossier spurs, often white-tipped. Juvenile spurs are usually shorter, flatter and more quickly tapering in shape, and less polished. If the rooster is relatively large and long-tailed, and has the adult spur characteristics, odds are good that it is an old bird.

Wild or Pen-reared?

But how do you know if it's a wild bird? Of course the licensed game bird clubs, and many of the community pheasant hunting areas, rely primarily on releasing pen-reared pheasants. These commercially-reared birds typically have a distinctive tell-tale sign. To control pecking and cannibalism in close quarters, the breeders commonly install plastic blinders ("specs") held in place by a pin through the nares (nostrils). These are cut off before release. But if there is a round hole through the bird's upper bill near its base, it isn't wild and it's almost surely a young bird.

Noise vs. Hunting Success?

Some hunters evidently aren't aware that pheasants have extremely acute hearing. This may not be an appreciable factor in hunting success in the first day or two of the hunting season, with the new crop of inexperienced roosters. But after then the remaining cocks have quickly earned their PhDs in survival. For hunting success then it becomes very important to be as silent and stealthy as possible. Near or at hunting areas, don't slam vehicle doors closed, yell at dogs or to hunting companions, or do anything else that audibly signals your presence—if you're noisy, you might be astounded at the number of pheasants already sneaking out the other end of the field or, now alerted, keeping safely well ahead of you.

Short vs. Longer Seasons?

California has a reasonably long but prudent hunting season, but still not as long as in most other states. For those concerned with length of season, there has never been a documented case of overharvesting roosters by regulated hunting.

Pheasants are polygamous, with dominant roosters normally having as many as 8 - 10 hens in their harems, which they attract by crowing. Tests were conducted in California, in which increasing numbers of hens were put in a pen with a single rooster. There was no decline in egg fertility until the number of hens reached about 50. (At 100 hens, the most noticeable results seemed mainly tired but contented roosters). Hens retain sperm and can lay an entire clutch of

Blinders used to protect captive-raised pheasants leave evidence that help distinguish the birds from their wild counterparts. DFG file photos.

fertile eggs from one mating. So proportionately few roosters are needed for breeding purposes.

As to how many roosters are left after the California hunting season; there typically are one or more roosters remaining per five hens in wild populations on heavily-hunted areas. This has been demonstrated by hundreds of "sex ratio counts" (a standard monitoring tool for wildlife managers) taken after the hunting season, over many years. The record low was about one rooster per 20 hens, documented on an intensively-hunted study area (with a 10-day season). However, later counts showed a return to the more typical one male/five females. Apparently the roosters had been pushed out by heavy hunting pressure but returned after the season closed.

Increasing the length of the hunting season doesn't lead to proportionate increases in numbers of pheasants killed because the "law of diminishing returns" comes into play—especially on public hunting areas. The longer roosters are hunted, the more wary and elusive they become, generally requiring more time and effort to bag one. The more casual hunters tend to drop out of the increasingly problematic chase relatively early. But many dedicated and experienced hunters (and dogs) relish these later, less-crowded hunting conditions and the challenge of outwitting some of these "educated" roosters. These successful events usually are the most rewarding highlights of the season, told and retold.

Some may feel that a longer season can lead to excessive hen losses from being accidentally shot. However, since the majority of the pheasant harvest occurs on opening weekend, and through the following weekend, the incidence of accidental hen shooting probably declines as the season progresses. I'm unaware of any evidence that extending the season leads to an appreciable increase in numbers of hens killed.

In fact, during the early years of the Sutter Basin study (in which we banded over 19,000 wild pheasants), we gathered data on the number of wild hens shot accidentally, as well as the number of hens killed by hunters legally on licensed pheasant clubs in the study area. As luck would have it, our data gathering was followed by three years of pheasant seasons that allowed for one hen in the 10-bird bag. When we analyzed all the data, and we probably had the most and best ever on this issue, we had one of those initially puzzling but intriguing situations in wildlife research when you think you are adding 2 + 2 but it won't come out to 4.

Although appreciably more wild hens were killed during the legal hunting period, this evidently was not enough to increase their total annual mortality. Hen deaths due to hunting increased several percentage points, but there was a corresponding decrease in non-hunting losses, with the overall mortality remaining essentially the same (about 60 percent annually). This has been termed "compensatory mortality" in wildlife management, the principle that mortality factors aren't necessarily cumulative. Instead, mortality for some individuals increases the chance of survival for other individuals.

Benefits of Longer Seasons

This may sound like reverse logic to some, but a fairly long season with the rewards of more hunting opportunity can be an important conservation measure for pheasants, as it has been for waterfowl in maintaining privately-owned wetland habitat. The pheasant problem is a habitat problem. We have spent nearly 20 years learning how to manage habitat to produce more ringnecks from non-croplands, and field testing to make sure the method works (see article on page 26). However, the DFG is limited in how much it can do to implement this directly, other than on its own wildlife areas.

There is essentially no hope for high pheasant numbers to return to California's intensively-farmed agricultural lands that have evolved to non-habitat for ringnecks. Perhaps the main potential is in enhancing habitat on private lands such as former croplands taken out of production, or duck or other hunting clubs. Here the limited habitat management can be done most feasibly by landowners, lessees, or other private effort, with DFG in an extension service, advisory role.

However, we've learned over the years that most private landowners aren't interested in pursuing habitat management programs for wildlife on their lands without some incentive or benefit to them, which is reasonable and logical. Simply put, these kinds of benefits accrue from longer seasons—short seasons preclude them, making the result for landowners not worth the effort. So arguments for shorter pheasant seasons are for "shooting ourselves in the foot," especially when there is no substantiated biological need for them.

Similar reasons apply to pheasant hunters having trained hunting dogs for retrieving. Pheasants are notorious for the difficulty of recovering crippled birds, those winged but with two sound legs especially so. But back in the era of 10-day pheasant seasons, many early-season hunters told me they could not justify the expense and problems of keeping a hunting dog year-round for the limited hunting opportunity with such a short pheasant season. I don't have any figures on it, but my perception is that we see significantly more dogs with pheasant hunters now with longer seasons. This can greatly reduce the waste of un-recovered cripples. In addition, a good hunting dog can add immensely to the success and enjoyment of pheasant hunting.

Chet Hart is a retired DFG biologist who has been studying pheasants since 1947.

2005/2006 Upland Game Seasons

Species	Season Dates	Daily Bag Limit	Possession Limit
Pheasant	Nov 12 - Dec 25	2 males per day for first 2 days of the season; 3 males per day after first 2 days of the season.	Double daily bag
Archery Only	Nov 12 - Jan 10	2 pheasants per day for first 2 days of the season; 3 pheasants per day after first 2 days of the season. Daily archery bag may contain not more than 1 female pheasant.	Double daily bag
Quail: Zone A(Mountain Quail Only)	Sep 10 - Oct 14	10	Double daily bag
Zone A (All Quail)	Oct 15 - Jan 29		
Zone B	Sep 24 - Jan 29		
Zone C	Oct 15 - Jan 29		
Archery Only	Aug 20 - Sep 9		
Falconry Only	Oct 1 - Feb 28		
Chukar	Oct 15 - Jan 29	6	Double daily bag
Archery Only	Aug 20 - Sep 9		
Falconry Only	Oct 1 - Feb 28		
Sage Grouse* (Hunting by permit only)	Sep 10 - 11	Lassen Zones-2 per day; 2 per season Inyo-Mono Zones-1 per day; 1 per season	
Falconry Only	Nov 5 - Jan 3		
Blue/Ruffed Grouse*	Sep 10 - Oct 10	2; All of one species or mixed	Double daily bag
Archery Only	Aug 20 - Sep 9		
Falconry Only	Oct 1 - Feb 28		
Ptarmigan*	Sep 10 - 18	2 per day or season	2 per day or season
Falconry Only	Oct 1 - Feb 28		
*Wild Turkey (Fall) (no fall hunting in San Diego County)	Nov 12 - 27	1 either sex	1 per season
Wild Turkey (Spring)	Mar 25 - April 30	1 bearded	3 per season
Archery Only (Spring)	May 1 - May 14		
Dove	Sep 1 - 15 Nov 12 - Dec 26	10; All of one species or mixed	**Double daily bag**
Band-tailed Pigeon	Sep 17 - 25 (North) Dec 17 - 25 (South)	2	**Double daily bag**
Snipe	Oct 15 - Jan 29	8	**Double daily bag**
American Crow*	Dec 3 - April 5	24	**Double daily bag**
Tree Squirrel*	Sept 10 - Jan 29	4	**4**
Rabbits & Varying Hare*	July 1 - Jan 29	5	**Double daily bag**
Jackrabbit	All Year	No limit	**No limit**

*For these species, a portion of the state is closed to hunting. Check regulations.

Rabbit Season is Afoot

Hunting opportunities for rabbits are plentiful on public land in California. Rabbits and hares can be found in almost all of California's upland habitats ranging from the deserts to the coastal coniferous forests. Like many upland game species, rabbits and hares are commonly found in riparian (streamside) habitats. Dogs can be useful while hunting cottontails and brush rabbits when these wily game animals take refuge in dense coverts and brambles.

The general statewide season for rabbits and snowshoe hares runs July 1, 2005 through Jan. 29, 2006. The bag and possession limit in aggregate of all species is five per day, 10 in possession. Jackrabbits may be hunted year round and there is no bag or possession limit. The shooting hours for all resident small game mammals continues to be one-half hour before sunrise to one-half hour after sunset.

Read on for a description of some of California's most popular rabbit and hare species.

Black-tailed hare or jackrabbit: The most common in California, this species is found everywhere except high in the Sierra Nevada. It averages 22 inches long and weighs 4 to 6 pounds. Its fur is grayish-brown and its ears—up to 6 inches long—are longer than its hind feet. Black-tails are very good eating, especially when they're young.

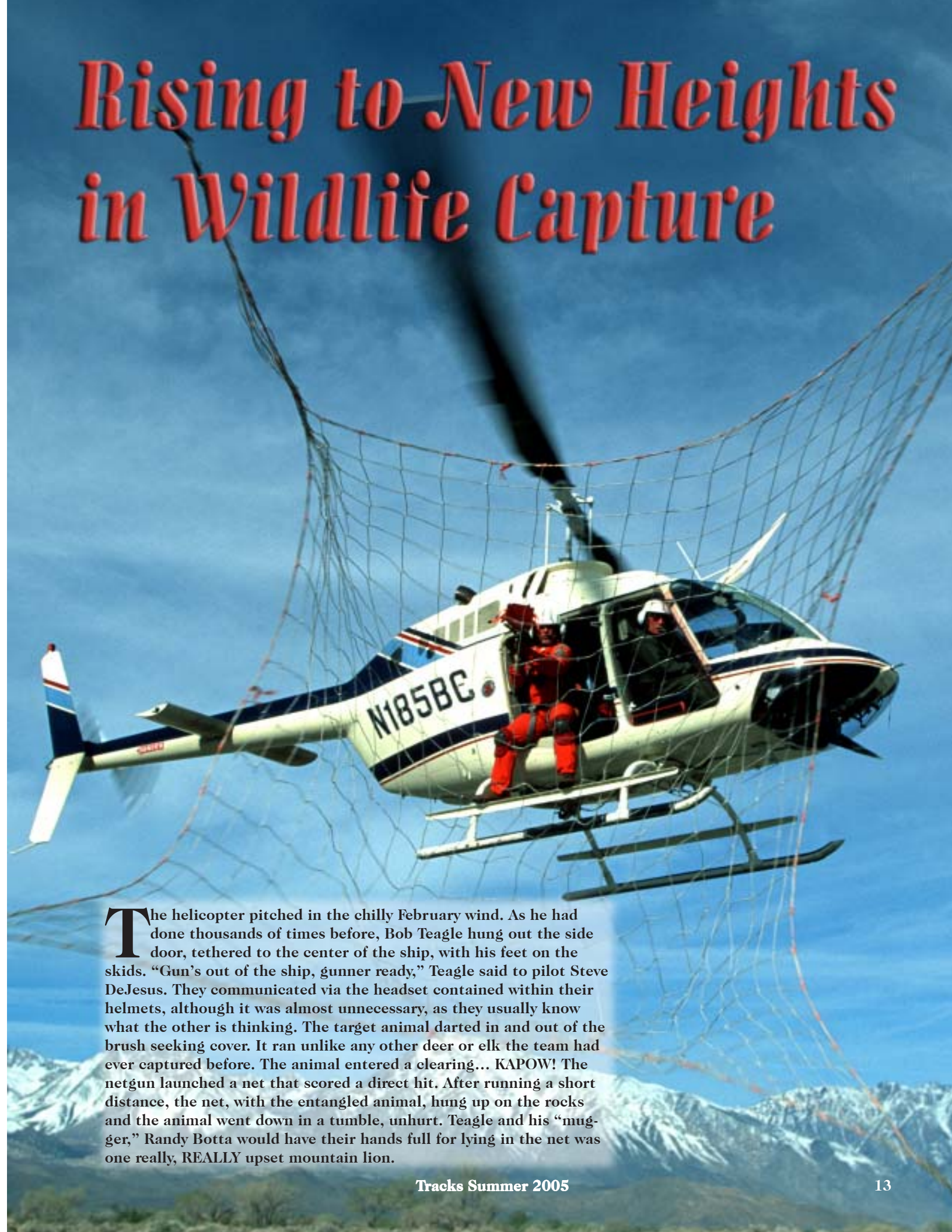
Snowshare Hare: Named for its large feet in proportion to its body size, the snowshoe is about 15 inches long and weighs 2 ½ to 4 ½ pounds. It is brown in summer and white in winter. Snowshoes live in mountain riparian habitats ranging throughout the Cascade Mountains in the north and extending through the Sierra Nevada to approximately Mariposa County. Although they are rarely taken by hunters, they're considered excellent eating.

Desert Cottontail: One of the most popular game rabbits, this species averages 15 inches long and 1 ½ to 2 ½ pounds with brown fur, black-tipped ears and a large white tail. It ranges throughout the southern two-thirds of the state, excluding high elevations, inhabiting streamside, open forest and grassland/shrub habitats. It's also commonly found around urban areas.

Mountain Cottontail: This cottontail is grayish-brown and has long hair inside the ears, with a white tail. It is about 14 inches long, and 1 ½ to 2 ½ pounds. It lives in northeastern California and along the eastern slope of the Sierra Nevada mountains down to northern Inyo County.

Brush Rabbit: Nicknamed "blue belly" for the bluish fur on it belly, this small gray rabbit is about 13 inches long and weigh 1 to 2 pounds. It lives in dense, brushy areas throughout western California and along the western slopes of the Sierra Nevada. Hunters usually take these rabbits while quail hunting. Some hunters say they are even tastier than cottontails.

Rising to New Heights in Wildlife Capture



The helicopter pitched in the chilly February wind. As he had done thousands of times before, Bob Teagle hung out the side door, tethered to the center of the ship, with his feet on the skids. "Gun's out of the ship, gunner ready," Teagle said to pilot Steve DeJesus. They communicated via the headset contained within their helmets, although it was almost unnecessary, as they usually know what the other is thinking. The target animal darted in and out of the brush seeking cover. It ran unlike any other deer or elk the team had ever captured before. The animal entered a clearing… KAPOW! The netgun launched a net that scored a direct hit. After running a short distance, the net, with the entangled animal, hung up on the rocks and the animal went down in a tumble, unhurt. Teagle and his "mugger," Randy Botta would have their hands full for lying in the net was one really, REALLY upset mountain lion.

Helicopters employing the use of a net-gunner have revolutionized wild animal capture. A netgun, which is nothing more than a gun that shoots a big net, allows for manual capture of the animal. Manual restraint eliminates the use of drugs with most species and is much safer for the animal.

There is probably no capture team that has caught more animals than contract pilot Steve DeJesus and the Wildlife Investigation Lab's (WIL) Capture Specialist Bob Teagle – easily over 5,000 animals when they stopped counting some time ago.

Getting a net over the animal is only half of the equation. Once down, the animal must be restrained by the third member of the capture team, who is affectionately referred to as the mugger. He or she must jump out of the helicopter and manually restrain a struggling animal that probably thinks it is being attacked by a giant, extremely loud flying predator.

What may be the world's first mountain lion netgun capture started with biologist Randy Botta's ongoing study. That study started with an effort to capture and radio collar 30 deer and as many mountain lions as possible. "The goal is to better understand the relationships of pumas (mountain lions) to deer and bighorn sheep in the Peninsular Mountain Ranges of San Diego County," he explained. Several of the deer were recaptures. Recaptured deer provide valuable information to researchers because a data set already exists for the individual.

Radio collars also have a secondary feature. If by chance the animal is killed, via natural means or otherwise, the radio collar will begin to emit a mortality signal. The collar itself is designed to be worn by an animal that is highly mobile. Deer, for example, would never stay still for more than six hours in one place. If the radio collar lies motionless for more than six hours, which would only happen if the animal were dead, the collar begins to emit a mortality signal. Biologists can then retrieve the collar to determine the cause of death.

Flying through the mountains on the rugged north slope of the Sierra Nevada mountains, DeJesus, Teagle and Botta were after deer in a difficult location. They had a strong signal from a previously collared doe and tracked her in order to hopefully catch any other animals with her. They traced the active signal to a thicket of junipers, sumac and scrub oak. Deer often seek refuge in such areas but are usually too nervous to stay put with a helicopter closing in. The team waited it out in a hover expecting the deer to break cover and run out. The deer didn't run out. Two mountain lions did. "I fully expected that we would flush her and maybe another deer or two out," Botta said. "It was quite a thrill when the first puma was

flushed and then shock when the second puma was flushed and I realized they were feeding on the collared doe."

By extraordinary coincidence, a lion had killed the collared animal recently enough as to not set off the mortality signal. The two lions had been feeding before being interrupted by the helicopter crew.

There was once a time when netgunning deer was considered "cutting edge." The WIL quickly became so proficient that net-gunning became the primary capture method. To up it another notch, they took on the challenge of catching elk. Getting a net on the elk was not the most difficult part; it was what to do with the elk standing there semi-caught in the net. "I can remember net-gunning one giant of a bull elk, well over 800 pounds, with the net caught only around it's huge rack," Teagle said. "We had to figure out how to knock it down and manually restrain it."

Previous page: An exploding netgun from the perspective of the wild animal.

Oppostite page: Teagle leans out of the helicopter and prepares for a shot.

Left: Helicopter, with longline attached, moves in to airlift a captured animal to base camp. Below: Capture crew prepares to hook up a bagged animal for transport.

All photos © Olivier Born.

Since netgunning the first lion the lab has managed to break several other barriers on animals they have never netgunned before such as wild burros, coyotes, even a bobcat. In recent months they blasted through their previous highest elevation ceiling of 10,000 feet on a Sierra Nevada Bighorn Sheep capture. Any higher and several factors must align to even attempt a capture. You must start with the extraordinary skills of pilot Steve DeJesus. The air must be cold with virtually no wind. Weight must be minimized, both equipment and personnel. And of course the animal must present itself. With all those in alignment, they can swoop in and hope for a passing shot. If any one of the safety considerations is not met, they must abandon the effort. At least a dozen attempts had been made in the past only to be aborted.

The team was especially interested in capturing one of a small group of sheep that had lived at especially high altitude all winter. So, to stack the odds in their favor they abandoned every ounce of unnecessary weight possible. They secured the services of Dr. Becky Pierce, a DFG biologist with a reputation for being tough as nails. She also happened to be the lightest mugger they could find. They went to over 11,700 feet, the place where the Sierra Nevada bighorn sheep reigns as king in the highest seat in the land, and caught one! "Because she stayed up high all winter we thought she

would have sacrificed some body weight," Pierce said. "We were surprised to find she was in great condition."

When most wildlife biologists are told that the WIL has been capturing coyotes via helicopter/netgun, they inevitably ask: Why? A skilled trapper can be very effective at catching the critters safely. Dr. Brian Cypher, a research ecologist from the Endangered Species Recovery Program at California State University, Stanislaus, designed a study to monitor the relationship between coyotes and San Joaquin kit foxes, an endangered species. He wanted to determine how the local coyote population was affecting kit foxes. An attempt to trap coyotes in kit fox range would surely inadvertently catch kit foxes. Not to mention that a coyote can be captured only a single time before it learns what a trap is all about and how to stay away from it. With an endearing chuckle, Cypher juxtaposes the two critters. "The two are at the opposite ends of the canid intelligence spectrum," he said. "Kit foxes are just not very wary. They will walk right into a cage trap."

So the WIL was asked to try using a net gun on coyotes. "They are like little rocket ships on the ground," Teagle said of the challenge of getting a net on a 35 pound coyote. But it worked and, 10 coyotes later, valuable data was gathered. They even seized an opportunity to netgun a bobcat. As another kit fox predator, the bobcat would provide bonus data.

After learning of the difficulty of netgunning coyotes and deer, one may not be impressed by the capture of a burro. They are neither fast nor agile, so getting a net on them is not the difficult part. Manually restraining them is the challenge. With a minimum of two experienced lab personnel or field biologists, the head and all four hooves must be restrained. And the burro has the strength to lift a 200-pound man off the ground with a quick thrust of the neck. Domestic burros have a reputation for being mean and ornery. Wild ones have twice that plus a nasty bite. And when the bite, they don't let go. Ask DFG biologist and project leader Jim Davis, who managed to get bit on the foot by a burro even though an eye cover and hobbles had already "restrained" the animal. "It was like being put in a steel vice, there was no way to pull my foot out," Davis said. While he eventually broke free, he developed a newfound respect for the stubborn burro. "It gives you a whole different outlook on capturing animals."

Patrick Foy is an Information Officer in DFG's Office of Communications.

Left: Teeth provide information about a mountain lion's age and health.

Below left: detailed measurements of every animal and taken and recorded.

Below: A capture crew marvels at the opportunity to process a mountain lion. DFG photos by Patrick Foy.

The Final Reward

Mongolian Grilled Barracuda

1 ½ pounds fresh barracuda fillets
½ sesame oil
½ cup soy sauce
1 Tbsp. garlic powder
1 Tbsp. onion powder
Juice from ½ lemon

Put last five ingredients together in shaker and mix well. Put fillets in large zip-tie bag, add marinade making sure that all the fish is well covered. Zip bag shut after squeezing out air and place in refridgerator two hour before grilling on BBQ. Grill about 5 minutes on each side (depending on the thickness of the fillets) and serve immediately.

Photo and recipe by Karen R. Fothergill, a wildlife biologist with the DFG's Upland Game Program.

Big Bucks Benefit Wildlife

Hunters had to pony up a little more money this year for a California big game fund-raising tag. Prices pulled out of a two-year slump, fetching up to $45,000 for the opportunity to hunt tule elk at Grizzly Island Wildlife Area, and $85,000 for a desert bighorn sheep tag.

A total of 17 tags were sold at fund-raising auctions in early 2005, raising a total of $408,050. That compares to a total of $246,200 for 16 tags sold in 2004. Of course, the real winners are California's big game populations, which directly benefit from the money raised.

Hunting/conservation groups compete for the chance to sell a limited number of big game tags at their fund-raising auctions, which are usually held between February and April. Winning organizations, and the dates of the upcoming auctions, will be announced this fall.

ORGANIZATION	TYPE OF TAG(S)	BID AMOUNT
The Mule Deer Foundation - National	1 golden opportunity deer	$ 19,000
	1 pronghorn antelope	4,500
California Deer Association - Redding Chapter	1 open zone deer	9,000
Rocky Mountain Elk Foundation - Northern California (Redding)	1 open zone deer	8,800
Foundation for North American Wild Sheep - California Chapter	1 bighorn sheep	85,000
Rocky Mountain Elk Foundation - National	1 Grizzly Island elk	42,500
Safari Club International - San Francisco Bay Area Chapter	1 open zone deer	7,000
Foundation for North American Wild Sheep - National	1 bighorn sheep	75,000
	1 Owens Valley elk	20,000
California Deer Association - Chico Chapter	1 golden opportunity deer	18,500
	1 pronghorn antelope	4,000
California Deer Association - San Jose Chapter	1 golden opportunity deer	13,000
Rocky Mountain Elk Foundation - Central San Joaquin (Fresno)	1 open zone deer	7,500
Safari Club International - Granite Bay Chapter	1 open zone deer	10,250
California Deer Association - Salinas Valley Chapter	1 golden opportunity deer	22,000
The Mule Deer Foundation - Central Coast Chapter	1 Grizzly Island elk	40,000
	1 golden opportunity deer	22,000
2005 TOTALS:		$408,050
(deer = $137,050; elk = $102,500; pronghorn = $8,500; bighorn sheep = $160,000)		

New Survey Method Furthers Band-tailed Pigeon Management

by Pat Lauridson

The band-tailed pigeon is the only native pigeon species in the Western United States and Canada. Its range within the United States includes portions of California, Nevada, Oregon, Washington, Utah, Colorado, Arizona, and New Mexico. Although generally similar in size and stance, it can be distinguished from the introduced feral pigeon, or rock dove, by its generally darker plumage, sleeker body, and longer tail feathers which contain a dark colored band at the base. The two species also typically occupy dissimilar habitats, especially in California, with feral pigeons preferring more urban or agricultural environments and band-tails typically avoiding them for the wild coniferous and hardwood forests of California's coastal and Sierra Nevada mountain ranges.

The band-tail is primarily migratory and can fly over 1,800 kilometers one way during its annual north-south seasonal migration. Two distinct subpopulations, or races, of band-tailed pigeons are recognized by ornithologists based upon their differing migration patterns and only rare interchange of individuals. The Interior Region subpopulation occupies various portions of the southwest's four-corner states. The Pacific Coast subpopulation ranges geographically from lower British Columbia to the northern portions of Baja Mexico. California's montane habitats serve as both breeding and wintering range for the Pacific Coast band-tail with breeding taking place statewide and wintering occurring primarily south of Sacramento.

The band-tailed pigeon is considered a game species in each state it occupies, including California. However, due to its migratory nature, harvest management oversight for the band-tail falls under federal jurisdiction. Accordingly, with scientific input and recommendations from California and the other states, the U.S. Fish and Wildlife Service (USFWS) annually sets harvest frameworks for the band-tailed pigeon, as

Band-tailed pigeons are one of California's migratory game birds. DFG file photo.

well as other migratory bird species. The states are then allowed to designate their own seasons and bag limits within these criteria. Historically, California has relied upon four data sources to formulate harvest regulation recommendations: 1) trends in the pigeon population in California as described by the National Breeding Bird Survey; 2) specific pigeon surveys in OR and WA; 3) harvest estimates generated by the Department's annual Game Take Hunter Survey; and, 4) estimates of recruitment of young birds into the population resulting from an annual wingbee (see article at right). Beginning next year however, trend data from a newly developed census survey will add an additional dynamic to the recommendation process.

Over the past few decades, the Pacific Coast states have employed differing survey methods to determine the relative health and size of the band-tailed pigeon population. These methods included National Breeding Bird Survey routes, state call-count surveys, and water/mineral site point surveys. In 1998, a study was initiated by the U.S. Geological Survey (USGS), in cooperation with the USFWS, Washington Department of Fish and Wildlife, Oregon State University, Canadian Wildlife Service, and California Department of Fish and Game (DFG), to determine which of the existing survey methods produces the most reliable and accurate depiction of short-term (3-5 years) band-tail population changes. Study results revealed that, in contrast to Breeding Bird Survey routes and call-count surveys, mineral site counts were more likely to be effective at determining short-term trends in the breeding population.

With results of their prior study in hand, in 2001 the USGS initiated a follow-up study to develop a standardized, inter-state population survey methodology which would ideally produce a reliable band-tailed pigeon breeding population index and reveal any short-term population changes. Funded by the Webless Migratory Game Bird Research Program (USFWS), Washington Department of Fish and Wildlife, Oregon Department of Fish and Game, Oregon State University, and DFG, this study entailed stationing four field biologists at key sites along the Pacific Coast and having them conduct mineral site bird counts and collect habitat

Migratory bird specialists have gathered for the last 14 years to examine wings submitted by band-tailed pigeon hunters from across the western United States. By carefully observing certain traits in the wings, including feather color, molt and replacement, and wear, scientists can determine if the bird was a juvenile or adult when it was harvested. This information provides valuable insight concerning the recruitment of young birds into the adult population the prior year. Recruitment, in turn, is a key factor in the assessment of population health.

In May of this year, biologists representing the two band-tailed pigeon subpopulations gathered in Lakewood, Colorado to conduct the 2005 band-tailed pigeon wing bee. Over a four hour period, these migratory bird specialists examined over 250 wings and recorded age and molt data for each. These data will be further analyzed in the coming months to determine hatch date distribution and recruitment percentages. This information will then be combined with other population assessment data to formulate next year's harvest recommendations through the Pacific Flyway Study Committee and Council.

Western biologists will join together yet again next spring for the annual band-tail wing bee. If you receive envelopes and a request to submit wings this year, please assist us in our efforts to assure band-tail population health by sending in one wing from each bird you shoot. Or, if you harvest band-tailed pigeons annually and have not been asked to submit wings (but would like to), please contact the DFG at (916) 445-3406 for information on how to participate.

Photo, above: Federal, state, and retired wildlife professionals gathered in Lakewood, Colorado in May to conduct the annual Pacific Flyway band-tailed pigeon wingbee. Shown from left to right are: Pat Lauridson (DFG); Dr. Clait Braun (Colorado Division of Wildlife, retired); David Dolton (USFWS); and Steve Inzalaco, Michelle Gosz, and Dr. Todd Sanders (Colorado Division of Wildlife). ***Photo provided by*** *David Dolton.*

The types of mineral sites used by band-tailed pigeons vary dramatically. The survey site above was located near Lake Tahoe and consisted of an equipment yard where band-tails would pick-up salt and sand to supplement their nutritional needs. Photo by Pat Lauridson. Other survey sites, such as the one pictured on the right, were far off the beaten path in dense forested areas where mineral springs and creeks provided these resources. ***Photo by U.S. Geological Survey.***

data at 20 different sites on a weekly basis. This effort continued from June through September in 2001 and 2002. Analysis of the resulting data revealed the most productive mineral sites for conducting census techniques, as well as determining that early morning surveys during the first two weeks of July would offer the best potential to detect short-term population changes.

Armed with this new information, wildlife biologists from British Columbia, Washington, Oregon, and California coordinated their efforts through the Pacific Flyway Study Committee and made plans to implement the new method the following year. As a result, standardized, range-wide Pacific Coast band-tailed pigeon data collection occurred for the first time in 2004. In California, eight DFG wildlife biologists representing two regions and headquarters surveyed 14 known mineral sites in Northern California. These sites ranged in habitat type from asphalt-covered equipment yards to deep-woods, pristine mineral springs rarely observed by man. Data collection began a half-hour before sunrise and continued until noon. Every 30 minutes the number of band-tails that had arrived and departed since the last record was documented. At the end of the daily study period, results were tabulated to generate a site-specific census record. These records were then combined to form a statewide population index for the year and forwarded to federal personnel for further analysis.

With one year of coordinated efforts and data under their belts, state and provincial wildlife personnel throughout the Pacific Coast are poised to visit their respective mineral sites again this summer. In early July, a total of 42 mineral sites will be visited within the Pacific Coast band-tailed pigeon's range, including 15 located in California. The resulting data will be submitted to the USFWS for compilation, analysis, and interpretation. As yearly data sets are accumulated and combined, population trend data will begin to emerge. These results, in turn, should prove highly valuable when making band-tail management decisions, including setting the annual harvest regulations.

California Begins Dove Study

The DFG will be participating in a nation-wide study of mourning doves. This study is being conducted to improve the reliability of information used in the decision making process regarding harvest management (setting hunting regulations).

The study will involve two information-gathering techniques. The first will be a long-term banding program. A total of about 2,000 doves will be banded during this initial year of the study, at about 20 locations throughout California. The banding program will allow a better estimate of harvest and survival rates for both adult and juvenile mourning doves.

Banding will be done by DFG and U.S. Fish and Wildlife Service staff and, in at least one location, volunteers from Quail Unlimited. When doves are banded, age and sex of the birds will be recorded.

An additional aspect of the study that is anticipated (pending availability of federal funding) will be to collect at least 400 wings from hunters at three locations near where doves were banded. Since feather difference on most dove wings allows us to readily distinguish adult and juvenile doves, wing collections will provide information on recruitment into the population of young doves at a given location for that year.

In addition to the new work described above, DFG will continue to participate in the annual national dove "call count survey." This survey uses about 1,000 20-mile routes where observers record doves heard at one-mile intervals, and all doves seen along the route. Sixty of these routes are within California.

Pat Lauridson, wildlife biologist in the DFG's Upland Game Program, is coordinating the work on mourning doves. "I have been very pleased at the willingness of both Department people and others to step up and help with the dove project," Pat said. "Mourning doves are very important to California hunters. Our Game Take Hunter Survey indicates that about 100,000 hunters harvest about 2 million doves each year. California hunters harvest more mourning doves than any other game species."

New: Longer Spring Turkey Archery Season

The spring turkey season was extended two extra weeks for archers during 2005. This recommendation was made by the DFG following a request from archery hunters, and was adopted by the Fish and Game Commission last year. This change is expected to provide some additional hunting opportunity, yet have no significant effect on the turkey population.

Wild turkeys are doing well in California. Mapping of occupied turkey range was completed by U.S. Forest Service and DFG biologists in 2004. This mapping effort resulted in an estimate that turkeys occupy about 29,000 square miles, or about 18 percent of California. (not including areas where turkeys may exist, but at very low densities.) The DFG's "Game Take Hunter Survey" estimated that hunters bagged 25,000 turkeys in 2003.

Benchmarks in Game Management

California's game laws reflect a gradual recog nition that management and conservation are necessary for healthy wildlife populations in the future. Some of these laws are interesting because they call attention to hunting practices that used to be legal.

1852 - first closed season for antelope and elk in 12 counties (year-round hunting no longer legal)
1854 - closed season on antelope and elk expanded statewide
1880 - trapping of quail, partridge or grouse prohibited
1897 - robin removed from list of game birds
1901 - night shooting prohibited; first daily bag limits established
1905 - sale of doves and all shore birds prohibited
1907 - system of annual hunting license inaugurated

Large bulls were trained to be "live blinds" by market hunters in the late 1800s. After approaching flocks of ducks, geese and quail unseen, more than 100 birds could then be killed with one discharge from a large bore double-barrel gun. Live blinds were banned in California in 1915.

Special Hunts Lead To...

Dove Hunts

Cosumnes River Preserve, Sacramento County
Sept. 1, 2, 2005
(916) 358-2839

Bakersfield, Kern County
Sept. 1, 2, 2005
(559) 243-4005 ext. 133

Pilibos Wildlife Area, Fresno County
Sept. 1, 2; Sept. 3 – 15; Nov. 12 – Dec. 26, 2005 (559) 243-4005 ext. 133

Tranquillity, Fresno County
Sept. 1; Sept. 2 – 15; Nov. 12 – Dec. 26, 2005
(559) 243-4005 ext. 133

Success Lake, Tulare County
Sept. 1 -15; Nov. 12 - Dec. 26, 2005
(559) 243-4005 ext. 133

Huron, Fresno County
Sept. 1; Sept 2 – 15; Nov. 12 – Dec. 26, 2005
(559) 243-4005 ext. 133

Winton, Merced County
JUNIORS ONLY
Sept.1 PM; Sept. 3, 2005
(559) 243-4005 ext. 133

Gorman-Frazier Park, Los Angeles County
Sept. 1, 3, 2005 AM/PM
(562) 342-7145

Rancho Jamul Ecological Reserve,
San Diego County
Sept. 1, 3, 4 AM/PM — Nov. 19, 20 all day, 2005
(562) 342-7145

Tehachapi, Kern County
Sept. 1, 2 AM/PM, 2005
(562) 342-7145

Imperial Valley, Imperial County
Sept. 1-15; Nov. 13 - Dec. 28, 2005
(760) 922-4686

Co-op Sportsmen's Club Public Pheasant Hunts

Southern Tulare County Sportsman's Association, Tulare County
Nov. 12 - Dec. 25, 2005
(559) 243-4005 ext. 133
(559) 781-6087
(559) 781-0177
www.stcsa.com

Family Pheasant Hunts

Little Dry Creek, Upper Butte Basin Wildlife Area, Butte County
Nov. 13, 2005
(916) 358-2839 or (530) 982-2169

Gustine, North Grasslands Wildlife Area,
China Island Unit, Merced County
Nov. 19, 2005
(559) 243-4005 ext. 133

Merced, Merced Wastewater Treatment Facility, Merced County
Dec. 3, 4, 2005
(559) 243-4005 ext. 133

Modesto, Stanislaus County
Dec. 10, 2005
(559) 243-4005 ext. 133

Stevinson, Merced County
Dec. 3, 2005
(559) 243-4005 ext. 133

Chowchilla, Madera County
Dec. 17, 2005
(559) 243-4005 ext. 133

San Joaquin – Tranquillity, Fresno County
Nov. 19, 2005
(559) 243-4005 ext. 133

Bakersfield, Kern County
Nov. 19, 2005
(559) 243-4005 ext. 133

Alpaugh, Tulare County
Nov. 19, 2005
(559) 243-4005 ext. 133

Lemoore, Kings County
Nov. 19, 2005
(559) 243-4005 ext. 133

Cuyama Valley, Santa Barbara County
Sept. 24, 25 AM/PM, 2005
Jan. 21, 22 AM/PM, 2006
(562) 342-7145

Frazier Mountain, Ventura County
Dec. 18 AM/PM
(562) 342-7145

Rancho Jamul, San Diego County
Oct. 1 AM/PM, Nov. 6 AM/PM, Dec. 3 AM/PM, 2005
Jan. 8 AM/PM, 2006
(562) 342-7145

Peace Valley, Los Angeles County
Oct. 8 AM/PM, Nov. 13 AM/PM, Dec. 10 AM/PM, 2005
Jan. 15 AM/PM, 2006
(562) 342-7145

Tehachapi, Kern County
Oct. 23 AM/PM, 2005
(562) 342-7145

Robinson, Schindler, Desert Security, Tohshin Farms, Riverside County
Oct. 9, Nov. 20, Dec. 4, 2005
(760) 922-4686

Camp Cady Wildlife Area – Newberry Springs, San Bernardino County
Dec. 11 AM/PM, 2005
(760) 922-4686

Wild Turkey Hunts

Daugherty Hill Wildlife Area,
Yuba County
Mar. 25, 26, 29; Apr. 1, 2 , 2006
(916) 358-2839

Oroville Wildlife Area, Butte County
Mar. 25, 26; Apr. 8, 9, 22, 23, 2006
(916) 358-2839

Spenceville Wildlife Area, Nevada & Yuba Counties
Mar. 25, 26, 29; Apr. 1, 2, 2006
(916) 358-2839

U. C. Field Station, Browns Valley, Yuba County
JUNIORS ONLY
April 2006 TBA
(530) 743-5068

Lake Sonoma, Sonoma County
Nov. 19, 20, 2005; Apr. 1, 2, 2006
(707) 944-5500

Lake Sonoma, Sonoma County
JUNIORS ONLY
Nov. 12, 13, 2005; Apr. 8, 9, 2006
(707) 944-5500

Cache Creek, Lake County
Mar. 26, 27, 2006
(707) 944-5500

Camp Roberts, San Luis & Monterey Counties
Nov. 19, 20, 2005; April 2006 TBA
(831) 649-7194
Camp Roberts (call in fall) (805) 238-8167

Lake Mendocino, Mendocino County
Nov. 12, 13, 2005; April 4, 6, 8, 11, 2006
(707) 456-0329

Lake Mendocino, Mendocino County
JUNIORS ONLY
Nov. 19, 20, 2005; March 25, April 1, 2006
(707) 456-0329

Canada de los Osos, Santa Clara
JUNIORS ONLY
Nov. 12, 13, 2005; April 2006 TBA
(831) 649-2934

Millerton Lake State Recreation Area,
Fresno County
ARCHERY ONLY
Mar. 25-31; Apr. 1-7, Apr. 8-14, Apr. 15-21,
Apr. 22-28; Apr. 29 - May 5; May 6-14, 2006
(559) 243-4005 ext.133

Tejon Ranch, Kern County
JUNIORS ONLY
April 11, 13, 19, 20, 2006
(559) 243-4005 ext.133

Wild Bird Public Hunts

Delta Islands (Pheasant Hunt), Sacramento County
Nov. 12, 16, 23, 26, 30; Dec. 3, 7, 10, 2005
(916) 358-2839

South East Fremont Weir, (Pheasant Hunt), Yolo County
Nov. 12, 16, 19, 23, 26, 30; Dec. 3, 7, 10, 2005
(916) 358-2839

Mobility Impaired Hunts

Feather River Wildlife Area, Sutter County
JUNIORS ONLY
Oct. 30, 2005 AM/PM
(916) 358-2877 or (530) 743-5068

Chowchilla, Madera County
Nov. 20, 2005 — (559) 243-4005 ext. 133

Quail Hunts

Springville, Tulare County
JUNIORS ONLY
Oct. 15, 2005 — (559) 243-4005 ext. 133

O'Neals, Fresno County
JUNIORS ONLY
Oct. 15, 2005 — (559) 243-4005 ext. 133

Rancho Jamul, San Diego County
Nov. 19, 20, all day, 2005 — (562) 342-7145

Gorman-Frazier Park, Los Angeles County
Oct. 15, 16 AM, 2005 — (562) 342-7145

Imperial Valley, Imperial County
Oct. 22, 2005 - Jan. 29, 2006 — (760) 922-4686

Photos by David Lasher

...a Lifetime of Memories!

Women's Pheasant Hunts

Honey Lake Wildlife Area, Lassen County
Oct. 22, 2005
(530) 254-6644

Eel River Wildlife Area, Humboldt County
Nov. 5, 2005
(707) 464-2523

Shasta County Sportsmen's Club, Tehama County
Dec. 3, 2005
(530) 597-2201

Lake Earl Wildlife Area, Del Norte County
Nov. 5, 2005
(707) 441-2201

Feather River Wildlife Area, Sutter County
Oct. 29 AM/PM; Nov. 5, 6 AM/PM, 2005
(916) 358-2839 or (530) 743-5068

Delta Islands, Twitchell Is./Sherman,
Sacramento County
Nov. 13, 2005
(916) 358-2839

San Miguel Women's Hunting Clinic,
Monterey County
Dec. 3, 2005
(831) 649-2890 or (707) 944-5500

Grizzly Island Wildlife Area, Solano County
Dec. 3, 2005
(707) 425-3828

Bakersfield, Kern County
Dec. 3, 2005
(559) 243-4005 ext. 133

Gustine, Merced County
Dec. 3, 2005
(559) 243-4005 ext. 133

Mapes Ranch, Modesto, Stanislaus County
Nov. 19, 2005
(559) 243-4005 or ext. 133

Peace Valley, Los Angeles County
Nov. 12 PM
(562) 342-7145

Rancho Jamul, San Diego County
Nov. 5 PM
(562) 342-7145

Robinson Farms, Blythe, Riverside County
Dec. 3, 2005
(760) 922-4686

Junior Pheasant Hunts

Butte Valley Wildlife Area, Siskiyou County
Sept. 17, 2005 — (530) 398-4627

* Ash Creek Wildlife Area, Lassen/Modoc County
Sept. 17, 2005 — (530) 294-5824

Honey Lake Wildlife Area, Lassen County
Nov. 5, 6, 2005 — (530) 254-6644

* Shasta County Sportsmen's Club, Tehama County
Nov. 19, 20, 2005 — (530) 597-2201

* Eel River Wildlife Area, Humboldt County
Nov. 19, 20, 2005 — (707) 464-2523

Lake Earl Wildlife Area, Del Norte County
Nov. 19, 2005 — (707) 464-2523

Shasta Valley Wildlife Area, Siskiyou County
Nov. 19, 2005 — (530) 459-3926

Headwaters Honker Preserve, Plumas County
Oct. 8, AM/PM, 2005 — (916) 358-2839

** Upper Butte Basin Wildlife Area,
Little Dry Creek Unit, Butte County
Nov. 19, 20, AM/PM, 2005
(916) 358-2839 or (530) 982-2169

Oroville Wildlife Area, Butte County
Nov. 26 AM/PM, 2005
(916) 358-2839 or (530) 538-2236

Feather River Wildlife Area, Sutter County
Oct. 29, 30 AM/PM; Nov. 5, 6 AM/PM, 2005
(916) 358-2839 or (530) 743-5068

Llano Seco Ranch, Glenn County
Dec. 11, AM, 2005 — (530) 934-2801

Gray Lodge Wildlife Area, Butte County
Nov. 19, 2005
(916) 358-2839 or (530) 846-7500

Yolo Bypass Wildlife Area, Yolo County
Nov. 19, 2005
(916) 358-2839 or (530) 757-2461

Delta Islands, Twitchell or Sherman Island,
Sacramento County
Nov. 19, 20, 2005 — (916) 358-2839

Grizzly Island Wildlife Area, Solano County
Nov. 12, 13, 2005
(707) 425-3828 or (707) 944-5500

Napa-Sonoma Marshes Wildlife Area,
Napa-Solano County
Nov. 12, 2005
(707) 944-5542 or (707) 944-5500

Laytonville, Bernie Geiger Memorial,
Mendocino County
Nov. 12, 2005
(707) 456-0329 or (707) 944-5500

Highland Springs Lake County Flood Control District,
Lake County
Nov. 12, 2005 — (707) 944-5500

San Miguel-Ray Azbil, San Luis Obispo County
Feb. 11, 12, 2006
(805) 238-4236 or (707) 944-5500

* Mendota Wildlife Area, Fresno County
Nov. 19, Dec. 3, 2005 — (559) 243-4005 ext. 133

* O'Neill Forebay Wildlife Area, Merced County
Nov. 19, 26, 2005 — (559) 243-4005 ext. 133

Mapes Ranch, Modesto, Stanislaus County
Nov. 12, 13, 2005 — (559) 243-4005 ext. 133

*Taft, Kern County
Nov. 12, 13, 2005
(559) 243-4005 ext. 133 or (661) 763-5517
loneranger@bak.rr.com

* Success Lake, Tulare County
Nov. 19, 20, 2005
(559) 243-4005 ext. 133 or (559) 781-6087
www.stcsa.com

* Lake Isabella, Kern County
Nov. 19, 20, 2005
(559) 243-4005 ext. 133; (760) 379-3188;
(760) 379-8466 rccduck48@yahoo.com

Peace Valley-Gorman, Los Angeles County
Oct. 9 AM/PM, Nov. 12 AM/PM, Dec. 11 AM/PM, 2005
Jan. 14 AM/PM, 2006
(562) 342-7145

Rancho Jamul, San Diego County
Oct. 2 AM/PM Nov. 5 AM/PM Dec. 4 AM/PM
Jan. 7 AM/PM
(562) 342-7145

Deborah Takayama Memorial Hunt, Ventura County
Feb. 4, 2006
(562) 342-7145

Frazier Mountain, Ventura County
Dec. 17 AM/PM, 2005 — (562) 342-7145

Tehachapi, Kern County
Oct. 22 AM/PM, 2005 — (562) 342-7145

San Jacinto Wildlife Area, Riverside County
Nov. 13, 2005 — (760) 922-4686

Imperial Wildlife Area Wister Unit, Imperial Co. Nov. 19
AM/PM, 2005 — (760) 922-4686

Little Antelope – Slinkard Valley Wildlife Area,
Mono County
Nov. 12, 2005 — (760) 922-4686

Robinson. Schindler, Desert Security, Tohshin Farms,
Riverside County
Oct. 8; Nov. 19, 2005 — (760) 922-4686

Camp Cady Wildlife Area, San Bernardino County
Dec. 10 AM/PM, 2005 — (760) 922-4686

Imperial Valley (El Centro), Imperial County
Dec. 10, 11, 2005 — (760) 356-4280

* Recommended for first-time hunters
**Recommended for experienced hunters

Western gray squirrel. Photo by John C. Muegge.

Squirrel and Grouse Hunting

Tree squirrel and ruffed and blue grouse seasons open Sept. 10 in California but do not extent statewide. The maps, below, indicate where it is legal to hunt these species. For complete regulations, visit the DFG Web site at www.dfg.ca.gov or pick up a copy of the 2005 California Mammal Hunting Regulations at DFG offices and license vendors statewide.

Ruffed grouse. File photo.

Tree Squirrel Hunting

Blue and Ruffed Grouse Hunting

Blue grouse.
Photo by Jay W. Wiley.

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Create Your Own

by Chad A. Fien

What is the secret to growing pheasants in California? What do public and private land managers need to understand and do in order to grow more pheasants? How can your duck club play a role in revitalizing the local pheasant population? Well, we looked into these questions and feel we have a few suggestions and answers.

The production value of upland habitat throughout the state generally has not lived up to its potential due to several reasons which I will not go into here, but is evidenced by the dwindling populations of pheasants and some other upland-dependent species. This is of great concern to wildlife managers, and we've been looking for answers.

Grizzly Island Wildlife Area, located in the heart of the Suisun Marsh was the site of a pheasant management and research project from the fall of 2000 until the fall of 2003 to address some of these questions and concerns. I was lucky enough to be the lead biologist on this project.

Let me just start by saying the habitat needs of pheasants in California differ from the needs of pheasants elsewhere in the country, most notably the upper Midwest, or "pheasant country." Pheasants can be managed on small parcels of land and you don't need to manage across thousands of acres in order to have a successful pheasant population. Pheasants here in California also have the luxury of a much milder climate and don't have a problem over-wintering; there's plenty of food and adequate thermal cover available all winter long. Some agricultural areas with cleaner farming practices may be an exception to this, and there is no doubt that cleaner farming has eliminated many of our pheasants, but we will save the vanishing "California agricultural pheasant" for a latter discussion.

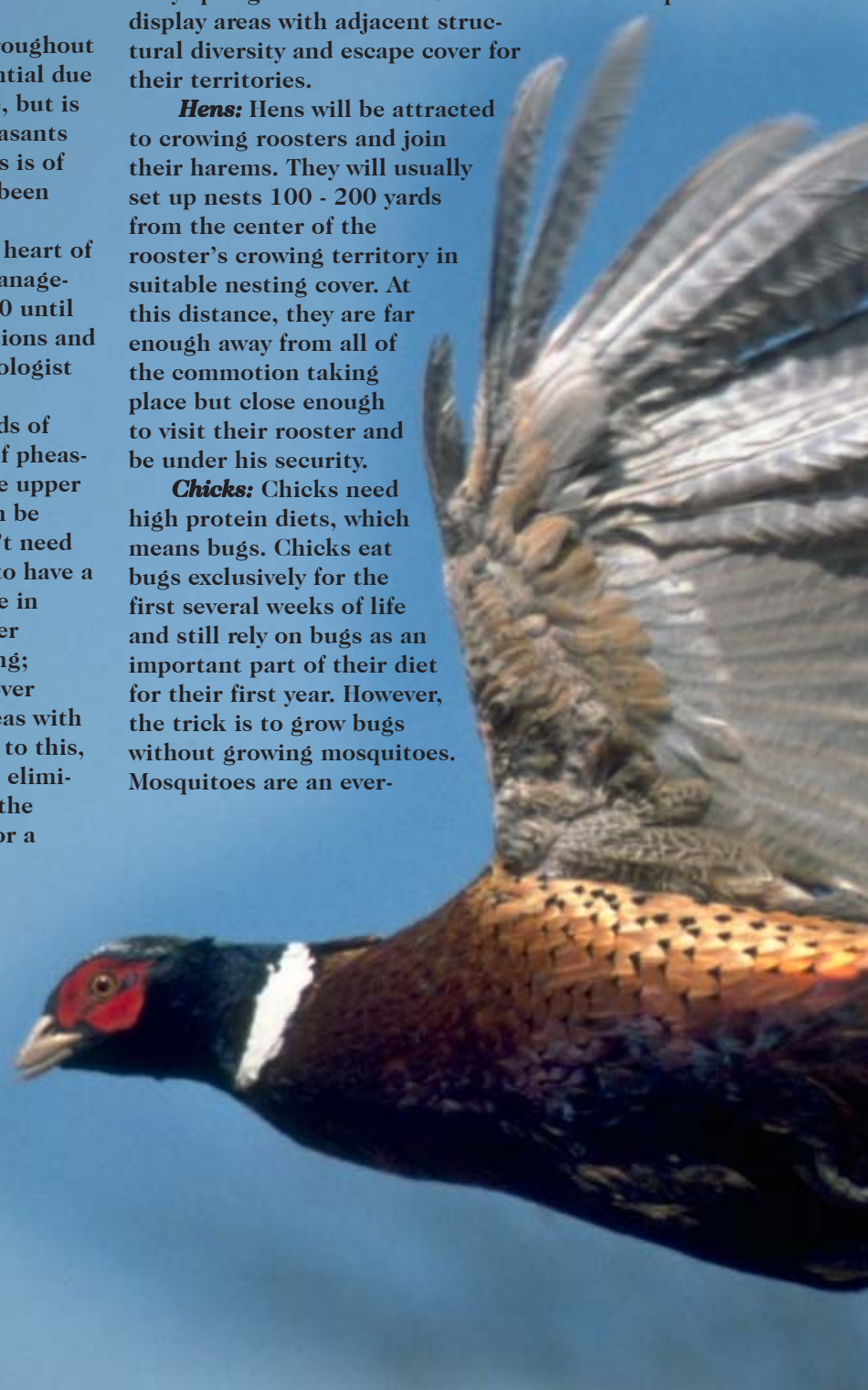
In order to understand what land managers need to do, we need to begin with understanding some basic pheasant biology.

Basic Pheasant Biology

Roosters: Roosters establish crowing territories in early spring to attract hens. Roosters look for open display areas with adjacent structural diversity and escape cover for their territories.

Hens: Hens will be attracted to crowing roosters and join their harems. They will usually set up nests 100 - 200 yards from the center of the rooster's crowing territory in suitable nesting cover. At this distance, they are far enough away from all of the commotion taking place but close enough to visit their rooster and be under his security.

Chicks: Chicks need high protein diets, which means bugs. Chicks eat bugs exclusively for the first several weeks of life and still rely on bugs as an important part of their diet for their first year. However, the trick is to grow bugs without growing mosquitoes. Mosquitoes are an ever-



Flurry of Pheasants

growing concern these days, and being able to manage an area for bugs without growing mosquitoes can be a bit tricky, but we managed to find a way.

Research

We tested a new management strategy on an experimental area which was termed a Diversified Upland Habitat Unit, or more affectionately known as a DUHU. We also had a comparison area which started out with a similar population size and baseline habitat.

To make a long story short, the DUHU pheasants responded to our management with very high production rates, brood survival, and harvest; while at the same time, the comparison area dwindled in production, brood survival, and harvest (much like the rest of California during the same time frame).

Pheasants are a short-lived boom or bust species and can quickly respond very well to management. This DUHU management strategy isn't intended to help the boom years get much better (because Mother Nature is already taking care of water management). But through DUHU management, we aim to replicate boom year conditions well enough to help keep the bust years from being so miserable, or possibly even make them as good as Mother Nature's boom years.

So what's in a DUHU that pheasants like and how do you manage for it?

Land Management

Roosters: We created areas for crowing territories by simply discing small holes or meandering strips. These techniques work better than straight strips because if neighboring roosters can't see each other, they won't fight as much or expend as much energy defending their territories. Crowing territories are easy to create if your area does not already have these criteria in the natural landscape or if you want to entice roosters into a given area. Now, you can't expect to draw roosters from miles around, but you can fine tune where you want these roosters to be and display. My suggestion would be near the center of your DUHU in order to keep the hens (and ultimately the chicks) as nearby that location as possible.

Hens: Hens are relatively easy to accommodate. They need some nesting cover within short proximity to a rooster's crowing territory. Pheasants are very successful nesters by nature and don't need much more than some areas of high ground with dense vegetation.

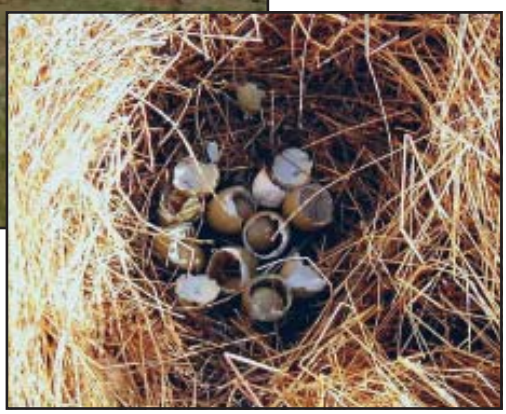
Chicks: This is where California managers need to focus a bit more energy, time, and effort. This is also where you throw out all the hard and fast rules and management becomes an art adapted to your local conditions. And by its very nature, this is where I see more people fail or at least have problems. The brood habitat areas have moist, humid micro-climates with canopy cover overhead, yet are open enough at ground level to facilitate chick foraging . What you need to target in these areas are broadleaves, not grasses or wetland plants less productive of bugs. This can be accomplished by the timing of your water drawdown and irrigations. It's important to note however, that the goal is not accomplished by just growing broadleaves. It is true that broadleaves are the target vegetation because their structure can produce more bugs, but only if the right moisture level is maintained in the surface soil underneath the broadleaves to promote and maintain a bloom of invertebrates. We created the brood habitat in a linear fashion between the rooster crowing territories and the nesting habitat, and again on the outer edge of the nesting habitat. The thought behind this placement is 1) that in the clutch-laying period or when the hen takes nest breaks, she

will cross or feed in these brood strips so that their bug abundance will imprint on her and she will know where to take her brood when they hatch, or 2) that if we more or less surround the nesting area, she will have to take her brood through these brood strips regardless if she intended or not. The purpose of a long, linear strip is so that this brood habitat can cross, and be part of, as many hen home ranges as possible.

Timing and Details of Earth Moving, Discing, and Water

All earth moving and discing should be completed in late summer/early fall, after the nesting season and before the first rains come. The only earth moving necessary is for the brood habitat strips, and is only needed during initial setup and as needed every few years for refurbishment. (It is important to note that we are not suggesting the planting of any vegetation in the brood strips; but rather simply managing for the broad-leafed "weeds" that naturally occur there.)

The earth moving consists of creating a swale, borrow-ditch or v-ditch and building up a small berm (6-12 inches) on each side of it. The ideal situation would be to have a ditch or swale that can hold water year round to maintain a mosquito fish population while also supplying water for pheasants to drink during the hot summer. Again, ideally, you would want a "bench" (15-20 feet) on both sides of your swale, and surrounded by the berm to contain and control the water, but this is not always possible; in those instances, a bench on one side will suffice. With either option, you should slope the benches slightly (2-6 inches) from the berm side back to the swale, so that irrigation water drains back, to help improve your ability to "flash" irrigate and to essentially eliminate trapped water and potential mosquito production.



Discing is required annually as maintenance and must be accomplished in order to set back plant succession and thatch buildup. This is required only in the brood habitat strips and for the display strips in the rooster crowing territories.

As for the water, there are two cycles to know about: 1) winter flooding, and 2) spring/summer irrigations. This is where the most problems can occur. Winter flooding is pretty straight forward and requires flooding the brood habitat strips to the maximum height possible (to the top of the berms). This begins in mid to late December or when you first see grass beginning to germinate. You will want to hold that water until late February/early March and then let the level come back down into your swale. This timing will get you past the grass germination, and just before the broadleaf plants begin.

If water isn't available for winter flooding, an herbicide treatment about mid February, to kill off all new plant growth (but especially grasses) may be the best alternative.

Now pay attention to this next section and know your capabilities, because without being able to accomplish the spring/summer irrigations effectively, there's no sense in spending any time, effort, or money on creating a DUHU. This is where you will need to have somebody in close proximity to your management area that can check these brood habitat strips on a daily or near daily basis. When the surface of the soil begins to dry out in the brood habitat strips (usually about 4-6 weeks after you pulled your water off from your winter flooding) you will want to begin irrigating. When you irrigate, you want to put water just over the top of the benches until it reaches the base of the berm and then immediately bring the water back down into your ditch or swale bottoms. These flash irrigations usually take less than a day from the time you begin the irrigation until the time you drop the water back down into the swale bottom or ditch (this may vary a little depending on how many acres you need to flood and how fast you can get the water in, but holding the water any longer could change or kill your vegetation composition or make the area unavailable for the broods for which you are trying to manage). This irrigation process should continue until at least mid June (preferably mid July). But leave as much water in your swale bottoms or ditches as long as possible, to provide drinking water through those hot, late summer months.

So if you have the capabilities and desire, there is a wonderful reward at the end of the line. We had a tenfold increase in the number of birds we flushed in our DUHU during the course of our evaluation, and you can do the same. To date, there are over 50 DUHUs on public and private lands throughout California and Oregon, and together we are making a flurry of pheasants.

Hunter Safety is No Accident!

Every year, hunters make decisions that have an impact on their lives during hunting seasons. Sadly, these decisions, such as not wearing blaze orange while hunting, can have serious—even deadly—consequences.

According to the International Hunter Education Association's (IHEA) latest statistics, there were 19 hunting related shootings in California in 2002; two involved fatalities. Several of the factors in these shootings included careless handling of firearms, failure to identify targets properly, shooters swinging on game and victims who were out of sight of the shooter. Additionally, most hunting related incidents involved members of the *same* hunting party.

Nationally, most accidental hunting related shootings are visibility-related, with shooters failing to notice another hunter in the line of fire or mistaking another hunter for game through vegetation. In addition to ongoing education and reinforcement of fundamental firearm safety guidelines, the use of fluorescent or blaze orange safety clothing has a significant impact on this problem. Since the inception of blaze orange programs throughout the U.S., statistics have demonstrated a dramatic decrease in accidental shootings associated with visibility issues. According to one study, in the past decade in New York State, 15 hunters have been mistaken for deer and killed. *Each and every one* of these 15 fatalities was among the small minority of hunters who did not wear blaze orange. A sixteenth hunter who was also not wearing blaze orange was killed in the line of fire when another hunter shot at game nearby.

Each state has different rules regarding the use of blaze orange. Some states require a specific amount of blaze orange on each hunter in terms of square inches, or a specific article of clothing (such as a vest or hat or both). While California law does *not* specifically require the use of blaze orange while hunting, the DFG strongly recommends the use of blaze orange for upland and big game hunters and promotes the "Blaze Orange Saves Lives" message at events such as the Game Bird Heritage Program hunt shown in the photo.

California hunters can help ensure the safety of their fellow hunters by wearing blaze orange, carefully planning each hunt, and insisting that all members of their hunting party follow five simple safety rules:

1. Always assume that every gun is loaded, and unload guns when not in use.
2. Control the muzzle, and keep it pointed in a safe direction.
3. Keep your trigger finger off the trigger until you are ready to shoot.
4. Be sure of your target and beyond.
5. Wear blaze orange.

By following these fundamental safety rules—and especially by wearing blaze orange—you can make each hunt safer, ensuring that you live to hunt and enjoy the outdoors another day!

David Lasher is an avid hunter and an active member of the Santa Clarita Valley chapter of Quail Unlimited. He is also credited with the photo above.

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